

## **Listing of Claims:**

1. (currently amended) A method for providing supplemental information related to a television program, the method comprising:

storing a plurality of program interface objects (PIOs) within a memory of an entertainment system, each PIO comprising a single discrete data structure for representing a single respective television program within the memory that, each PIO encapsulating[[es]]:

(i) attribute data for one or more attributes providing information about [[a]] the single television program, at least one attribute comprising a link to supplemental information related to the television program,

(ii) a plurality of actions to be performed in connection with the single television program, wherein each of the actions are represented within the PIO as program code ~~for one or more user-selectable actions executable by the entertainment system in connection with the same television program, wherein the program code comprises, for each action, a routine in a machine independent format that is executable in a Java virtual machine within the interactive television system and any destination device to which the PIO is sent such that the routine does not need to be installed on the destination device prior to receiving the PIO in order to perform the associated user-selected action, and~~

(iii) graphical data for display as an icon to visually represent the PIO within a graphical user interface (GUI), the GUI being other than a grid-based electronic program guide (EPG) including rows corresponding to television channels;

displaying the icons representing the plurality of PIOs in the GUI;

in response to a user picking an icon of a selected PIO within the GUI,  
displaying a context menu listing the one or more actions associated with the selected  
PIO, at least one of the actions for displaying supplemental information related to the  
associated television program;

in response to the action for displaying supplemental information being  
selected from the context menu, using the at least one attribute comprising the link to  
retrieve the supplemental information referenced by the link; and

displaying the retrieved supplemental information in the GUI.

2. (original) The method of claim 1, wherein retrieving comprises:  
establishing communication with a supplemental information server;  
requesting the supplemental information referenced by the link from the  
supplemental information server; and  
receiving the requested supplemental information.

3. (original) The method of claim 2, wherein the supplemental information  
server comprises an Internet server.

4. (original) The method of claim 1, wherein the link comprises a Uniform  
Resource Locator (URL).

5. (original) The method of claim 1, wherein the link comprises a file name.

6. (canceled).

7. (canceled).
8. (canceled).
9. (original) The method of claim 1, wherein displaying comprises:  
automatically displaying the supplemental information in response to the television program being presented by the entertainment system.
10. (original) The method of claim 1, wherein displaying comprises:  
automatically displaying the supplemental information prior to the television program being presented by the entertainment system.
11. (original) The method of claim 1, wherein displaying comprises:  
launching a browser configured to display the supplemental information;  
and  
displaying the supplemental information within the browser.
12. (original) The method of claim 1, wherein the PIO comprises a set of link attributes, each link attribute comprising a different link to a set of supplemental information.
13. (original) The method of claim 12, further comprising:  
displaying a list of link attributes associated with the PIO; and

receiving a user selection of a particular link attribute from the list of link attributes.

14. (original) The method of claim 1, wherein the supplemental information comprises an eXtensible Markup Language (XML) document.

15. (previously presented) The method of claim 1, wherein the PIO comprises a JavaBean object.

16. (original) The method of claim 1, wherein the entertainment system is selected from the group consisting of a personal computer, an interactive television (ITV) system, and a personal digital assistant (PDA).

17. (withdrawn) A method for initiating a commercial transaction within an entertainment system, the method comprising:

storing a program interface object (PIO) within the entertainment system, the PIO comprising a plurality of attributes, at least one attribute comprising a link to a commercial server, the PIO further comprising a plurality of user-selectable actions performable by the entertainment system in connection with the television program;

establishing communication with the commercial server referenced by the link; and

initiating a commercial transaction with the commercial server using the link.

18. (withdrawn) The method of claim 17, wherein the link comprises a Uniform Resource Locator (URL) and wherein establishing comprises:

directing a browser to the URL.

19. (withdrawn) The method of claim 17, wherein the PIO comprises user information necessary for initiating the commercial transaction and wherein initiating comprises:

transmitting the user information to the commercial server.

20. (withdrawn) The method of claim 19, wherein the user information comprises a user's payment information, and wherein sending comprises:

encrypting the payment information prior to transmission to the commercial server.

21. (withdrawn) The method of claim 19, wherein the user information comprises a digital certificate.

22. (withdrawn) The method of claim 19, wherein user information is selected from the group consisting of a name, a user ID, a password, an address, a telephone number, and payment information.

23. (withdrawn) The method of claim 17, wherein the link identifies a particular product from a set of products, and wherein initiating comprises:  
placing an order for the identified product.

24. (withdrawn) The method of claim 23, wherein the commercial server comprises a video-on-demand server, and wherein the identified product comprises a license for video-on-demand content.

25. (withdrawn) The method of claim 23, wherein the commercial transaction comprises a sales transaction for a particular product and wherein initiating further comprises:

prompting the user to approve the sales transaction;  
receiving an indication of approval from the user.

26. (withdrawn) The method of claim 17, wherein the PIO further comprises a visual indicator, the method further comprising:

displaying the visual indicator in a graphical user interface; and  
detecting a user selection of the visual indicator.

27. (withdrawn) The method of claim 26, wherein the visual indicator comprises a graphical icon.

28. (withdrawn) The method of claim 26, wherein the PIO further comprises a first action configured to initiate a commercial transaction, the method further comprising:

detecting a user selection of the first action.

29. (withdrawn) The method of claim 17, wherein the PIO comprises a set of link attributes, each link attribute comprising a link for initiating a different commercial transaction.

30. (withdrawn) The method of claim 17, wherein the link comprises a Uniform Resource Locator (URL).

31. (withdrawn) The method of claim 17, wherein the PIO is selected from the group consisting of a JavaBean object, a Distributed Component Object Model (DCOM) object, and an eXtensible Markup Language (XML) object.

32. (withdrawn) The method of claim 17, wherein the entertainment system is selected from the group consisting of a personal computer, an interactive television (ITV) system, and a personal digital assistant (PDA).

33. (withdrawn) A method for providing interactive communication related to a television program within an entertainment system, the method comprising:

storing a program interface object (PIO) within the entertainment system, the PIO comprising a plurality of attributes carrying information about a television program, at least one attribute comprising a link to a chat server, and a plurality of user-selectable actions performable by the entertainment system in connection with the television program;

establishing a chat session with the chat server referenced by the link; and  
connecting to a chat room hosted on the chat server.

34. (withdrawn) The method of claim 33, where establishing comprises:  
launching an instant messaging client on the entertainment system.

35. (withdrawn) The method of claim 33, wherein the link comprises an indication of a chat room on the chat server and wherein establishing comprises:  
directing the instant messaging client to the indicated chat room.

36. (withdrawn) The method of claim 33, wherein the link comprises an indication of a chat conference on the chat server and wherein establishing comprises:  
directing the instant messaging client to the indicated chat conference.

37. (currently amended) A system for providing supplemental information related to a television program, the system comprising:

computer-readable medium that stores a plurality of program interface objects (PIOs), each PIO comprising a single discrete data structure that encapsulates:

attribute data for one or more attributes providing information about a single television program, at least one attribute comprising a link to supplemental information related to the television program,

a plurality of actions to be performed in connection with the single television program, wherein each of the actions are represented within the PIO  
~~as program code for one or more user-selectable actions executable by the entertainment system in connection with the same television program, wherein the program code comprises, for each action, a routine in a machine independent format that is executable in a Java virtual machine within the interactive television system and any destination device to which the PIO is sent such that the routine does not need to be installed on the destination device prior to receiving the PIO in order to perform the associated user-selected action, and~~

graphical data for display as an icon to visually represent the PIO within a graphical user interface (GUI), the GUI being other than a grid-based electronic program guide (EPG) including rows corresponding to television channels;

a display component that displays the icons representing the plurality of PIOs in the GUI and, in response to a user picking an icon of a selected PIO within the GUI, displays a context menu listing the one or more actions associated with the

selected PIO, at least one of the actions for displaying supplemental information related to the associated television program; and

a retrieval component that, in response to the action for displaying supplemental information being selected from the context menu, uses the at least one attribute comprising the link to retrieve the supplemental information referenced by the link, wherein the display component displays the retrieved supplemental information on a display device associated with the entertainment system.

38. (previously presented) The system of claim 37, further comprising:

a communication component that establishes communication with a supplemental information server and requests the supplemental information referenced by the link from the supplemental information server.

39. (previously presented) The system of claim 38, wherein the supplemental information server comprises an Internet server.

40. (previously presented) The system of claim 37, wherein the link comprises a Uniform Resource Locator (URL).

41. (previously presented) The system of claim 37, wherein the link comprises a file name.

42. (canceled).

43. (canceled).

44. (canceled).

45. (previously presented) The system of claim 37, wherein the display component is configured to automatically display the supplemental information in response to the television program being presented by the entertainment system.

46. (previously presented) The system of claim 37, wherein the display component is configured to automatically display the supplemental information prior to the television program being presented by the entertainment system.

47. (previously presented) The system of claim 37, wherein the display component is configured to automatically launch a browser configured to display the supplemental information and display the supplemental information within the browser.

48. (previously presented) The system of claim 37, wherein the PIO comprises a set of link attributes, each link attribute comprising a different link to a set of supplemental information.

49. (previously presented) The system of claim 48, wherein the display component is further configured to display a list of link attributes associated with the PIO and receive a user selection of a particular link attribute from the list of link attributes.

50. (previously presented) The system of claim 37, wherein the supplemental information comprises an eXtensible Markup Language (XML) document.

51. (previously presented) The system of claim 37, wherein the PIO comprises a JavaBean object.

52. (currently amended) A system for providing supplemental information related to a television program, the system comprising:

means for storing a plurality of program interface objects (PIOs) within a memory of an entertainment system, each PIO comprising a single discrete data structure for representing a single respective television program within the memory that,  
each PIO encapsulating[[es]]:

attribute data for one or more attributes providing information about a single television program, at least one attribute comprising a link to supplemental information related to the television program,

a plurality of actions to be performed in connection with the single television program, wherein each of the actions are represented within the PIO  
as ~~program code for one or more user selectable actions executable by the entertainment system in connection with the same television program, wherein the program code comprises,~~ for each action, a routine in a machine independent format that is executable in a Java virtual machine within the interactive television system and any destination device to which the PIO is sent such that the routine does not need to be installed on the destination device prior to receiving the PIO in order to perform the associated user-selected action, and

graphical data for display as an icon to visually represent the PIO within a graphical user interface (GUI), the GUI being other than a grid-based electronic program guide (EPG) including rows corresponding to television channels;

means for displaying the icons representing the plurality of PIOs in the GUI and, in response to a user picking an icon of a selected PIO within the GUI, displaying a context menu listing the one or more actions associated with the selected PIO, at least one of the actions for displaying supplemental information related to the associated television program; and

means for retrieving, in response to the action for displaying supplemental information being selected from the context menu, the supplemental information referenced by the link wherein the means for displaying is configured to display the retrieved supplemental information in the GUI.

53. (withdrawn) A system for initiating a commercial transaction within an entertainment system, the method comprising:

means for storing a program interface object (PIO) within the entertainment system, the PIO comprising a plurality of attributes, at least one attribute comprising a link to a commercial server, the PIO further comprising a plurality of user-selectable actions performable by the entertainment system in connection with the television program;

means for establishing communication with the commercial server referenced by the link; and

means initiating a commercial transaction with the commercial server using the link.

54-55. (canceled).